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Sent: 7/30/2014 2:23:11 AM

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Subject: Notes from the July 7, 2014 Call about the Hopi Infrastructure Projects

Participating in the July 7, 2014 call were:

Hopi WRP - Lionel Puhuyesva

Hopi Tribe - Micah Lomaomvaya

Hopi Finance - Yvonne Day, Marie Nachie

IHS - Robert Lorenz, Jesse DeCoteau

USGS - Rob Carruth

Shungopavi - Christine Tawahongva

MDC - Randy Wolff, Joe Davis

USEPA - Bessie Lee

Hopi Consultant - Kerry Brough

GHD - Frederick Tack

Bruce Fredericks

<u>HAMP</u> – The draft final PER was distributed on June 20, 2014 to the Hopi Tribe, IHS, and USEPA for review. The suggested due date for people's comments was June 30, 2014. Robert Lorenz indicated IHS has not yet received any comments to the draft final PER, but Bill Bettenberg was going to provide his comments to IHS the week of July 7,

2014. Adam Hughes will be back in two weeks from his deployment to the Texas border. (Adam was deployed on Saturday, July 5). Adam will finalize the PER (i.e., incorporate comments and talk to the group, as needed, about the comments) after he returns from Texas.

There have been discussions between the strategic plan folks and the NEPA folks to converge their respective documents. Bill Bettenberg has provided NEPA comments to John Hamilton, who is addressing the comments. The question now is how to quantify the O&M cost per customer and the treatment option(s). There needs to be a discussion on how to calculate the number. Brad Rae and John Hamilton will be discussing this the week of July 7, 2014.

With the June 20, 2014 transmittal, IHS has identified August 8, 2014 as a target date for a public meeting about the HAMP. It will be up to the Hopi Tribe to formalize the public meeting date. IHS was reminded that August 12, 2014 is a tribal holiday.

Robert Lorenz indicated there is an on-going good discussion on financing strategies in the PER (i.e., sunken costs and such). IHS is trying to evaluate the best way to minimize the Hopi Tribe's actual costs.

What is the Hopi Tribe's approach to submission of the PER to USDA? IHS is still waiting for feedback from APS about power to the wells. The Chairman's Office is the lead for the APS power issue. IHS needs, and is trying to get, an actual quote from APS in order to populate the cost field in the PER. The Chairman's Office is also overseeing the Tawa'ovi group's participation with APS. Perhaps a cost sharing plan? Discussions with the Tawa'ovi group can move forward when APS gets its quote to the Tribe.

Lionel Puhuyesva had a meeting with the Chairman and some of the Council members the week of June 30, 2014 about the HAMP. The APS issue came up in the discussion. The Tribe is leaning towards moving forward to also get quotes from NTUA for power to the wells. NTUA will need to upgrade its power substation at Pinon to serve the HAMP wellsites and the proposed Tawa'ovi development. NTUA is waiting for Hopi money to assist with upgrading the substation. If power is needed just for the HAMP wells, NTUA has enough power. Throw in the Tawa'ovi development, the Pinion substation needs to be upgraded.

Sampling results for Well 3 came back good.

Kerry Brough indicated that the draft final strategic plan is in GHD for formatting. The final report on the life cycle cost analysis is also in GHD for formatting. Both documents will be out by end of the week of July 7, 2014. These two documents will be sent to Brad Rae and Robert Lorenz.

Micah Lomaomvaya reported that a village member told him that there are websites on the internet that is soliciting money from the public for Hopi water projects. Micah found 2 or 3 of these websites. None are official Hopi websites.

<u>Shungopavi</u> – Lionel Puhuyesva indicated the contractors are getting licensed through the Hopi Tribe in order to finish the tank rehabilitation project. Shungnopavi still needs to give Lionel the number of water meters they need. Mike Janes will be getting together with Caldwell Tanks to schedule the work once the licensing for the tank rehabilitation work is completed. The purchase order for the contractor, Water Movers, is with the Hopi Finance Office; Water Movers needs a Business License. The purchase order for Jim's Water Truck Service is done. Work will be done once the purchase orders are completed. The work needs to be done in warm weather. Presently, the tank work is scheduled for the first part of August 2014.

Water Movers will work with Jim's Water Truck Service to install a by-pass on the well system and then fill up a temporary tank to maintain pressure throughout distribution system. \$13,000 is the total cost for the temporary water activities.

Christine Tawahongvi indicated the number of water meters that are still needed has been identified. The operators are presently looking at the number. Lionel Puhuyesva can proceed to purchase the water meters once he receives the number from Shungopavi.

Bessie Lee completed the paperwork to extend the Shungopavi grant to December 31, 2016. The paperwork is presently in the Region's Grants Office.

<u>Upper Moenkopi Drinking Water</u> – Randy Wolff announced he is the new CEO of MDC. MDC will have a meeting with the Upper Village council to ask for financial assistance to address the C-aquifer well issues (after replacing the well pipe and wiring, there is still no water in the well; the pump may be bad or there is a hole in the well pipe). Upper Moenkopi is relying on Wells 1 and 2 only. The C-aquifer well also had increasing iron levels. It was taking longer and longer to flush out the iron. MDC does not have enough money to explore the iron problem.

The C-aquifer well has a sounding tube. Rob Carruth did not see a plug to unscrew or a port to take a water level measurement in the C-aquifer well.

Randy Wolff indicated the Upper Moenkopi water system is barely keeping tank levels up with the pumping of only Wells 1 and 2. Last year, the C-aquifer well was used a lot to keep the tank levels up. MDC has put out a conserve water notice. MDC has also approached the Hopi Housing Authority for money. The Hopi Housing Authority is in an uproar at the moment. There is an interim Housing Director, Rick Tewa.

If the pump in Well 1 or 2 goes down, equipment from Well 3 can be used in these wells. If Upper Moenkopi does not provide funding to address the C-aquifer well issue and the C-aquifer well is still down, MDC will mostly haul water. MDC is looking to approach one of the Navajo Chapters as an immediate emergency backup. In Randy's discussions with NTUA, NTUA is not willing to hook Upper Moenkopi to its Tuba City water system since there is a need for the water in Tuba City. During peak times, the NTUA wells are pumping 24/7.

Is Upper Moenkopi actively talking to NTUA? It depends who on the tribal council talks to NTUA. It is the local Chapter that has issues with Upper Moenkopi, not NTUA management in Fort Defiance

The Grand Canyon Trust is a non-profit organization in Flagstaff. This group helps tribe do things. Can this group be used to help with the NTUA issues? Randy Wolff is meeting with the Grand Canyon Trust on July 7, 2014. Micah Lomaomvaya indicated that the Trust works with local communities. Micah suggested that the Tribe participate in the meeting with respect to tribal ordinances and such. Randy at least can start the discussions with the Trust.

The well pump in the C-aquifer well is set pretty shallow. Once the pump is pulled, Upper Moenkopi may want to set the pump lower. Iron is coming from the upper portion of the C-aquifer. If the C-aquifer system run 24 hours a day, there probably will not be that much iron. If the system is allowed to recover, iron goes back into the zone from which it came out. If the C-aquifer system is used more, the iron problem would probably go away. Randy Wolff will make a decision very son about pulling out the pump and adding a few lengths of pipe to lower pump when it is put back down the well.

Rob Carruth has reviewed the Tetra Tech and Clear Creek reports. The C-aquifer well has a solid casing down to 2300 feet below ground surface (bgs), then it is an open hole to the bottom of well at 3100 feet bgs. The original water level was around 960 feet bgs. From 960 to 2300 feet bgs, it is solid pipe. Where is the pump set? At 1400 feet bgs for the original pump test. Rob indicated that lowering the pump 20 feet will not do much. The C-aquifer well never underwent a real aquifer test. Thus, the well is likely capable of producing more water than it does now. The drawdown at 120 gpm was 30 feet (original pump test); the recovery was immediate. At 2300 to 2500 feet bgs, the well is in the Kaibab Limestone and a bit in the Moenkopi Formation, which has high gypsum and salts. Since the C-aquifer well has not really een stressed, there is an open interval of 900 feet, and the wells are only pumping 30 to 70 gpm, most of the flow is coming from the zone where you do not want it to come from. One thought is to seal off the first 200 feet below 2300 feet bgs and test the well at a higher discharge. The RO facility can expand by adding more skids.

Lionel Puhuyesva and Randy Wolff will contact Cristal Quinn about HUD's Imminent Threat money for the C-aquifer well. Randy's priority is to get the C-aquifer well back up and running. It was suggested to video-log the C-aquifer well. The issue is trying to really trouble shoot the C-aquifer well versus applying a fix without knowing the actual cause. Lionel indicated that WRP has a sounder that goes down to 1000 feet, with a static level at 900 feet. The WRP crew can go out the week of July 7, 2014 and get a depth to water for the C-aquifer well.

With respect to the USGS proposal to drill a new N-aquifer well, Table 1 in the zonal sampling report shows the static depth of water for Well 3 should be around 70 feet bgs. The total depth of Well 3 is around 240 feet bgs. Should the screen of Well 3 be scrubbed and cleaned? Well 3 has four short sections of screen (70 to 80 feet bgs, 120 to 140 feet bgs, 160 to 170 feet bgs, 225 to 235 feet bgs) and not a continuous screen. A drop in production from Wells 1 and 2 has been seen over the last 6 months. The USGS proposal will cost about \$300,000 to \$350,000, with USGS potentially contributing to some of the costs. The USGS proposal could drill two new 14-inch-diameter N-aquifer test wells up to 500 feet in depth. The final construction would be two new 8-inch-diameter PVC wells with the screens sized based on sieve analysis of the cuttings. The Tribe would be responsible for turning the test wells into production wells.

Randy Wolff indicated that because MDC is paying for all the wastewater and drinking water issues, it cannot pay the Tribe for the loan.

There will be a meeting in near future to provide updates about the Tuba City Landfill activities. There is a possibility of funding for the N-aquifer wells from the Tuba City Landfill activities. Lionel Puhuyesva will provide Randy Wolff with updates about the landfill activities.

<u>Upper Moenkopi Wastewater</u> – Brad Rae was updating the SDS list the week of June 30, 2014 with Upper Moenkopi. MDC completed a 3-year form for IHS. Randy Wolff reported that the wastewater system is running OK. The wastewater system is being inspected by USEPA enforcement staff on July 24, 2014.

The wastewater operators are Fred Coruth and Nathan Jensen. The drinking water operators are Joe Davis, Jason Watson, and Tyson Watson. Tyson is actually the utility operator for the village. Tyson is being supervised by MDC. Tyson takes care of Wells 1 through 3. Jason and Tyson are being cross trained.

Joe Davis is presently working on a drinking water emergency plan.

There are competing alternatives – NTUA, N-aquifer, C-aquifer. Upper Moenkopi may want to converge the thoughts to an agreed upon plan before approaching the funding agencies.

Next Call - The next call will be on Thursday, August 7, 2014 at 9:30 a.m. Hopi Time.

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Bessie Lee

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